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### REMARKS

An Excess Claim Fee Payment Letter is submitted herewith to cover the cost of eight (8) excess total claims.

Claims 1-40 are all the claims presently pending in the application. Claims 1, 8, 10, 24, 26 and 30 have been amended to more particularly define the claimed invention. Claims 33-40 have been added to claim additional features of the claimed invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-3, 7-9, 24-27 and 30-32 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by Champeau (U. S. Patent No. 5,068,632). Claims 10-16 and 18-23 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by Oppenberg (U. S. Patent No. 5,003,273).

Claims 4 and 28 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Champeau in view of Farquhar (U. S. Patent No. 5,847,324). Claims 5-6 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Champeau in view of Parker (U. S. Patent No. 5,554,825). Claim 28 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Champeau in view of Schreiber et al. (U. S. Patent No. 4,845,311). Claim 17 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Oppenberg in view of Parker.

These rejections are respectfully traversed in the following discussion.

#### **I. EXEMPLARY ASPECTS OF THE CLAIMED INVENTION**

Applicant notes that the features of the exemplary aspects of the claimed invention which are described in this Amendment pertain only to the claimed invention of the present Application. These features are not necessarily included in other aspects of the invention and, therefore, the description of such features in this Amendment should in no way be considered as limiting other aspects of the invention which may be the subject of other patents or patent applications.

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The claimed invention (e.g., as recited in claim 1 and similarly recited in claims 10, 24 and 30) is directed to an electrical wire including at least one electrifiable conductor for delivering electrical power, and first and second return conductors which are respectively formed on opposing sides of the at least one electrifiable conductor, such that the at least one electrifiable conductor is at least substantially entrapped by the first and second return conductors.

Conventional electrical wires include a "hot" conductor surrounded by a first insulation layer, a return (e.g., neutral) conductor surrounded by a second insulation layer, and a third insulation layer formed around the conductors and the first and second insulation layers (e.g., see Application at Figure 1A-1B; page 2, lines 3-6). However, such electrical wires provide no protection in the event that an object penetrates the electrical wire and contacts or exposes the "hot" conductor.

In the claimed invention, on the other hand, the at least one electrifiable conductor (e.g., the "hot" conductor) is at least substantially entrapped by the first and second return conductors (Application at page 5, lines 13-19; Figures 2A-2C). This feature helps to ensure that an object penetrating an outer surface of the electrical wire is substantially prevented from contacting the electrifiable conductor without contacting at least one of the return conductors. Thus, in contrast to conventional electric wires, provides protection in the event that an object penetrates the electrical wire and contacts or exposes the "hot" conductor.

### III. THE ALLEGED PRIOR ART REFERENCES

#### A. Champeau

The Examiner alleges that Champeau teaches the claimed invention of claims 1-3, 7-9, 24-27 and 30-32. Applicant submits, however, that there are elements of the claimed invention that are not taught or suggested by Champeau.

Champeau discloses a cable for the transmission of microwaves. The cable includes a central conductor 1 and two external conductive layers 5, 6.

However, Champeau does not teach or suggest "*such that said at least one electrifiable conductor is at least substantially entrapped by said first and second return conductors*", as recited, for example, in claim 1 and similarly recited in claims 10, 24 and 30.

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As noted above, unlike conventional electrical wires which provide no protection in the event that an object penetrates the electrical wire and contacts or exposes the "hot" conductor, the claimed invention includes at least one electrifiable conductor (e.g., the "hot" conductor) which is at least substantially entrapped by the first and second return conductors (Application at page 5, lines 13-19; Figures 2A-2C). This feature helps to ensure that an object penetrating an outer surface of the electrical wire is substantially prevented from contacting the electrifiable conductor without contacting at least one of the return conductors. Thus, in contrast to conventional electric wires, provides protection in the event that an object penetrates the electrical wire and contacts or exposes the "hot" conductor.

Clearly, these features are not taught or suggested by Champeau. Indeed, the Examiner attempts to equate the central conductor 1 in Champeau with the "at least one electrifiable conductor" in the claimed invention. This is clearly unreasonable.

Indeed, as noted above, in the claimed invention, the at least one electrifiable conductor (e.g., the "hot" conductor) is at least substantially entrapped. The Application states:

"[b]y 'substantially entrapped' it is meant that [an] object penetrating an outer surface of the electrical wire is substantially prevented [from] contacting the Electrifiable conductor without contacting the return conductor"

(Application at page 5, lines 13-19).

For example, in exemplary embodiments (e.g., Figures 2B-2C) the first and second return conductors at least substantially surround (e.g., completely surround) the periphery of the electrifiable conductor. Nowhere is this taught or suggested by Champeau.

Indeed, Champeau merely states that each of the strips 5, 6 "coats one of the plane external faces of the dielectric 2, 3 and is therefore parallel to the plane X" (Champeau at col. 4, lines 14-16). Nowhere does Champeau teach or suggest that an object penetrating an outer surface of the electrical wire would be substantially prevented from contacting the Electrifiable conductor without contacting the return conductor. This is clear from Figure 1 in Champeau which illustrates the external conductive layers 5, 6 as being separated by a thick layer of dielectric material 2, 3, such that if an object penetrated the wire (e.g., in a transverse direction) the object could easily contact the electrifiable conductor (e.g., without contacting either of layers 5 and 6.

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Further, Champeau is completely unrelated to delivering electrical power and is therefore, unrelated to the claimed invention. Thus, Champeau is completely unrelated to the claimed invention.

Therefore, Applicant submits that there are elements of the claimed invention that are not taught or suggested by Champeau. Therefore, the Examiner is respectfully requested to withdraw this rejection.

#### **B. Oppenberg**

The Examiner alleges that Oppenberg teaches the claimed invention of claims 10-16 and 18-23. Applicant submits, however, that there are elements of the claimed invention that are not taught or suggested by Oppenberg.

Oppenberg discloses a printed circuit board (PCB) with pseudo-coaxial transmission lines. The PCB includes signal conductor lines 301 formed at spaced positions in a dielectric material layer 104, and four return lines 201 positioned near the conductor lines 301.

However, Oppenberg does not teach or suggest "*such that said at least one electrifiable conductor is at least substantially entrapped by said first and second return conductors*", as recited, for example, in claim 1 and similarly recited in claims 10, 24 and 30.

As noted above, unlike conventional electrical wires which provide no protection in the event that an object penetrates the electrical wire and contacts or exposes the "hot" conductor, the claimed invention includes at least one electrifiable conductor (e.g., the "hot" conductor) which is at least substantially entrapped by the first and second return conductors (Application at page 5, lines 13-19; Figures 2A-2C). This feature helps to ensure that an object penetrating an outer surface of the electrical wire is substantially prevented from contacting the electrifiable conductor without contacting at least one of the return conductors

Clearly, these features are not taught or suggested by Oppenberg. Indeed, the Examiner attempts to equate the signal conductor lines 301 in Oppenberg with the "at least one electrifiable conductor" in the claimed invention. This is clearly unreasonable.

Indeed, nowhere does Oppenberg teach or suggest that the return lines 201 "substantially entrap" the signal conductor line 301. Indeed, Figure 1 in Oppenberg shows that there is intended to be a great deal of space between the signal line 301 and the return lines

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201. In fact, it is clear from Figure 1 in Oppenberg that it is very unlikely that the return lines 201 would prevent an object from penetrating the electrical wire and contacting the signal line 301 without contacting the return lines.

Moreover, nowhere does Oppenberg even recognize a problem (e.g., safety) which the claimed invention is intended to address. Indeed, Applicant would point out that Oppenberg discusses only signal transmission and has nothing to do with power delivery (e.g., as in the exemplary aspects of the claimed invention).

That is, Oppenberg is completely unrelated to delivering electrical power and is therefore, unrelated to the claimed invention. Thus, Oppenberg is completely unrelated to the claimed invention.

Therefore, Applicant submits that there are elements of the claimed invention that are not taught or suggested by Oppenberg. Therefore, the Examiner is respectfully requested to withdraw this rejection.

#### C. Farquhar

The Examiner alleges that Champeau would have been combined with Farquhar to form the claimed invention of claims 4 and 28. Applicant submits, however, that Champeau would not have been combined with Farquhar and even if combined, the alleged combination would not teach or suggest each and every element of the claimed invention.

Farquhar discloses a flexible cable 10 having a flat ribbon-type construction, and having signal conductors disposed in two planes and a power, or ground, conductor disposed in one plane (Farquhar at col. 2, lines 56-64).

Applicant respectfully submits that these references are completely unrelated and would not have been combined as alleged by the Examiner. Indeed, in contrast to Champeau, Farquhar is directed to a ribbon-type computer cable. Thus, no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

Further, Applicant submits that there is no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as

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alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, neither Champeau, nor Farquhar, nor any alleged combination teaches or suggests *"such that said at least one electrifiable conductor is at least substantially entrapped by said first and second return conductors"*, as recited, for example, in claim 1 and similarly recited in claims 10, 24 and 30.

As noted above, unlike conventional electrical wires which provide no protection in the event that an object penetrates the electrical wire and contacts or exposes the "hot" conductor, the claimed invention includes at least one electrifiable conductor (e.g., the "hot" conductor) which is at least substantially entrapped by the first and second return conductors (Application at page 5, lines 13-19; Figures 2A-2C). This feature helps to ensure that an object penetrating an outer surface of the electrical wire is substantially prevented from contacting the electrifiable conductor without contacting at least one of the return conductors

Clearly, these features are not taught or suggested by Farquhar. Indeed, nowhere has the Examiner even alleged that these features are taught or suggested by Farquhar.

In fact, as noted above, Farquhar merely discloses a ribbon-type computer cable which includes conductive layers 14, 14' and 20, 20', and leads 22, 22' (Farquhar at col. 3, line 27-col. 4, line 35). Thus, nowhere does Farquhar even teach or suggest first and second return conductors, let alone conductors which "substantially entrap" (e.g., substantially surround) the conductive layers 14, 14'.

Further, Farquhar is completely unrelated to delivering electrical power and is therefore, unrelated to the claimed invention. Thus, Farquhar clearly does not make up for the deficiencies in Champeau.

Therefore, Applicant submits that these references would not have been combined and even if combined, the alleged combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

#### **D. Parker**

The Examiner alleges that Champeau would have been combined with Parker to form the claimed invention of claims 5 and 6. Applicant submits, however, that Champeau would

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not have been combined with Parker and even if combined, the alleged combination would not teach or suggest each and every element of the claimed invention.

Parker discloses a flexible ribbon-type computer cable which includes signal conductors 2 imbedded in insulation 3, and ground conductors 6 over the insulation 3.

Applicant respectfully submits that these references are completely unrelated and would not have been combined as alleged by the Examiner. Indeed, in contrast to Champeau, Parker is directed to a ribbon-type computer cable. Thus, no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

Further, Applicant submits that there is no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, neither Champeau, nor Parker nor any alleged combination teaches or suggests "*such that said at least one electrifiable conductor is at least substantially entrapped by said first and second return conductors*", as recited, for example, in claim 1 and similarly recited in claims 10, 24 and 30. As noted above, this feature helps to ensure that an object penetrating an outer surface of the electrical wire is substantially prevented from contacting the electrifiable conductor without contacting at least one of the return conductors

Clearly, these features are not taught or suggested by Parker. Indeed, nowhere has the Examiner even alleged that these features are taught or suggested by Parker.

In fact, as noted above, Parker merely discloses a ribbon-type computer cable which includes signal conductors 2 imbedded in insulation 3, and ground conductors 6 over the insulation 3 (Parker at col. 2, lines 25-57; Figures 1, 2 and 5). Thus, nowhere does Parker even teach or suggest first and second return conductors, let alone conductors which "substantially entrap" (e.g., substantially surround) the signal conductors 2.

Parker is completely unrelated to delivering electrical power and is therefore, unrelated to the claimed invention. Thus, Parker clearly does not make up for the deficiencies in Champeau.

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Therefore, Applicant submits that these references would not have been combined and even if combined, the alleged combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

**E. Schreiber**

The Examiner alleges that Champeau would have been combined with Schreiber to form the claimed invention of claim 29. Applicant submits, however, that Champeau would not have been combined with Schreiber and even if combined, the alleged combination would not teach or suggest each and every element of the claimed invention.

Schreiber discloses a coaxial cable which includes a 360 degree signal return line formed around each of designated conducting signal traces.

Applicant respectfully submits that these references are completely unrelated and would not have been combined as alleged by the Examiner. Indeed, in contrast to Champeau, Schreiber is directed to a coaxial cable having a 360 signal return line. Thus, no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

Further, Applicant submits that there is no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, neither Champeau, nor Schreiber, nor any alleged combination teaches or suggests "*such that said at least one electrifiable conductor is at least substantially entrapped by said first and second return conductors*", as recited, for example, in claim 1 and similarly recited in claims 10, 24 and 30. As noted above, this feature helps to ensure that an object penetrating an outer surface of the electrical wire is substantially prevented from contacting the electrifiable conductor without contacting at least one of the return conductors

Clearly, these features are not taught or suggested by Schreiber. Indeed, nowhere has the Examiner even alleged that these features are taught or suggested by Schreiber.



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In fact, as noted above, Schreiber merely discloses a coaxial cable which includes a 360 degree signal return line formed around each of designated conducting signal traces (Schreiber at Abstract). Schreiber is completely unrelated to delivering electrical power and is therefore, unrelated to the claimed invention.

Thus, nowhere does Schreiber even teach or suggest first and second return conductors, let alone conductors which "substantially entrap" (e.g., substantially surround) an electrifiable conductor for delivering electrical power. Thus, Schriber clearly does not make up for the deficiencies in Champeau.

Therefore, Applicant submits that these references would not have been combined and even if combined, the alleged combination would not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

#### IV. FORMAL MATTERS AND CONCLUSION

The Examiner objects to Figures 1A-2B, 2E, 2F and 3A-3W as lacking proper cross-hatching. Applicant notes that these drawings are being corrected and will be submitted as soon as the drawings are completed.

Applicant notes that claims 8 and 26 have been amended to address the Examiner's objections thereto.

In view of the foregoing, Applicant submits that claims 1-40, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 6/22/05

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**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that the foregoing was filed by facsimile with the United States Patent and Trademark Office, Examiner William Mayo, Group Art Unit #2831 at fax number (703) 872-9306 this 22<sup>nd</sup> day of June, 2005.



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